

TH/bs 030100US  
06. October 2006

C L A I M S

1. A device for supplying and processing packages arranged on support elements, especially beverage packs, with a continuously running conveyor belt, wherein the support elements are arranged on the conveyor belt, wherein two revolving cycle belts (8, 8') are provided after the drawing rollers (6, 6') seen in the running direction (T) of the conveyor belt (2), wherein the cycle belts (8, 8') revolve in a plane parallel to the plane of the conveyor belt (2), wherein the cycle belts (8, 8') each have a side facing the other cycle belt (8, 8') and the sides facing one another run parallel to one another at a distance which corresponds to the width of the support elements (1), characterised in that two drawing rollers (6, 6') are provided on the right and left of the conveyor belt (2), whose axes of rotation are perpendicular to the plane of the conveyor belt (2), the cycle belts (8, 8') have a toothed structure on the sides facing one another and that the support elements (1) are provided with a toothed structure on their two outer sides.
2. The device according to claim 1, characterised in that the cycle belts (8, 8') are constructed as toothed belts which are each guided by two toothed-belt disks (7a, 7b or 7a', 7b').

3. The device according to claim 1 or 2,  
characterised in that a sensor (12) is provided to  
detect a draw-in position (B) of the support  
elements (1).
4. The device according to claim 1,  
characterised in that the front teeth (9) and rear  
teeth (11) of the support elements (1) seen in the  
transport direction (T) have an enlarged spacing  
compared with the middle teeth (10).
5. The device according to claim 1 or 4,  
characterised in that the draw-in position (A) of  
the support elements (1) is arranged such that only  
the two front teeth (9) of the support elements (1)  
seen in the transport direction (T) engage with the  
cycle belts (8, 8').
6. The device according to any one of claims 1 to 5,  
characterised in that a second sensor (13) is  
provided to detect a braking position.
7. The device according to claims 1 to 6,  
characterised in that draw-in rollers (5, 5') are  
provided before the drawing rollers (6, 6') seen in  
the transport direction (T) of the support elements  
(1), whose axes of rotation are arranged  
perpendicular to the plane of the conveyor belt (2).

8. The device according to claim 7,  
characterised in that the distance (d) of the draw-in rollers (5, 5') from the drawing rollers (6, 6') is shorter than the side length (s) of the support elements (1).
9. A method for supplying and processes packages, especially beverage packs, arranged on support elements (1) which are arranged vertically on a continuously running conveyor belt (2), comprising the following steps:
  - drawing in a support element (1) from a waiting position (A) into a draw-in position (B),
  - transporting the support element (1) from the draw-in position (B) into a processing position (C) by movement of the revolving cycle belts (8, 8') arranged at the side of the support element (1),
  - processing the pack on the support element (1) in the processing position (C) with the cycle belts (8, 8') stationary,
  - further transport of the support element (1) by means of the cycle belts (8, 8') and
  - transfer to the continuously running conveyor belt (2).
10. The method according to claim 9,  
characterised in that the attainment of the draw-in position (B) is monitored during drawing in of the support element (1).

11. The method according to claim 10,  
characterised in that the movement of the cycle belt  
(8, 8') for transport is only started after reaching  
the draw-in position (B) of the support element (1).
12. The method according to any one of claims 9 to 11,  
characterised in that the speed of the support  
element (1) during drawing in is reduced before  
reaching the draw-in position (B).
13. The method according to claim 12,  
characterised in that during drawing in of the  
support element (1) the attainment of a braking  
position is monitored and after reaching the braking  
position the speed of the support element (1) is  
reduced.
14. The method according to any one of claims 9 to 13,  
characterised in that the support element (1) is  
conveyed during drawing in of the draw-in rollers  
(5, 5') and is then brought into the draw-in  
position (B) by the drawing rollers (6, 6').
15. The method according to claim 14,  
characterised in that on reaching the draw-in  
position (B), the support element (1) is only in  
engagement with drawing rollers (6, 6').
16. The method according to any one of claims 9 to 15,  
characterised in that in the processing position (C)  
composite packaging blanks are placed on the support  
elements (1).

17. The method according to any one of claims 9 to 15, characterised in that in the processing position (C) packaging blanks arranged on the support elements (1) are formed into finished packs.
18. The method according to any one of claims 9 to 15, characterised in that in the processing position (C) packs arranged on the support elements (1) are filled.
19. The method according to any one of claims 9 to 15, characterised in that in the processing position (C) pouring elements are sealed onto the packs arranged on the support elements (1).
20. The method according to any one of claims 9 to 15, characterised in that in the processing position (C) pouring openings are sealed on the packs arranged on the support elements (1).